

AMENDMENTS TO THE SPECIFICATION

Please make the following amendments to the specification, where brackets are to be taken to indicate deletions and underlining to indicate the addition of text.

---Please delete the last paragraph on page 1. ✓

---Please replace the second paragraph on page 1 with the following. ✓

a3
The present invention is directed to the field of analytical devices typically found in a laboratory, and in particular a research laboratory directed to, among others, the chemical, biological, biochemical, and medical arts. More particularly, the device is an apparatus which includes a sample located upon the surface of a compact disc, and a mechanism which drives the sample on the disc surface in and out of the path of an inspection means that derives information about the properties and characteristics of the sample. [To provide but one of many possible embodiments as an example, the] The analytical device [could be] is preferably a mass spectrometer, and the inspection means [could be] is an ion source that interacts with the sample to create a charged particle or particles analyzed by any of the known mass spectrometer analyzers.

---Please replace the second paragraph on page 2 with the following. ✓

a4
At its simplest, mass spectrometry is a technique that does or can employ a laser to interact with the sample undergoing inspection, that provides a measure of the mass of a molecular sample. Additionally, important structural information can be obtained about samples whose identities are unknown by measuring the masses of fragment ions produced from the sample.

---Please replace the last paragraph on page 10 with the following.

a3
The sample containing CD can either be moved by hand or by a motorized manipulator. In the case of the latter, the motorized manipulator is constructed of two hollow-shaft "inside/out" stepper ("IOS") motors, which are available from Intelligent Motion Systems. The location of a suitable motorized manipulator assembly 100 is shown in Figure 2 and its construction is depicted in Figures 3A and 3B, with the manipulator in an in position (3A) and in an out position (3B). A target shaft 102 extends through both motors. A knob 104 is provided on the shaft end that extends out of the manipulator assembly. The knob 104 provides a way to rotate the target shaft in the manual mode of operation. The target shaft passes into the manipulator assembly 100 through inlet 106. A shaft lock/release screw 108 extending perpendicular to the target shaft 102, or substantially perpendicular thereto, is positioned in a bore 110 in the inlet 106. When the shaft lock/release screw [106] 108 is tightened against the target shaft, the second IOS motor 114 can rotate the target shaft because the shaft lock/release screw 108 fixes the shaft to the rotating interior of the motor. When the target CD is removed or installed, the shaft lock/release screw [106] 108 is loosened such that the target can manually be moved to its outmost position, allowing the vacuum lock to be operated.

---Please replace the second paragraph on page 5 with the following.

a6
[The analytical devices include mass spectrometers, UV spectrometers, fluorescence detectors, infrared spectrometers, visible light spectrometers, RAMAN spectrometers, and atomic force microscopes. Certain of these devices, such as the

mass]

ab
concl id

Mass spectrometer and the RAMAN spectrometer employ, or can employ, a laser as the inspection means. Generally speaking, "inspection means" can be defined as a probe which interacts with the sample under analysis to yield desirable information about the sample. In some instances, the sample may undergo a transformation due to the interaction with the inspection means, such as when a sample is ionized or otherwise converted into charged particles, which can occur in mass spectrometer analysis. [It is also possible that the inspection means may undergo a transformation, such as when a portion of the infrared spectrum is absorbed by the sample when conducting IR spectrometric analysis.] To give some examples without necessarily accounting for all possibilities, the inspection means may be electrons, or other charged particles, which maybe used in, among other devices, mass spectrometers. The inspection means may be some kind of electromagnetic radiation, such as [infrared, ultraviolet, visible light, or] the aforementioned laser light sources.

---Please replace the third paragraph on page 6 with the following.✓

92

The delivery device is a translation system that can be used with [virtually any type of] analytical [device,] devices such as those previously enumerated. With respect to a mass spectrometer, any technique of directing the charged particles to the detector can be used, and any possible inspection means can be used in ionizing to the sample target. Particularly, the present invention can be used with time of flight (TOF), quadropole, quadropole TOF, quadropole-quadropole TOF (qqTOF), magnetic sector, and ion trap mass analyzers.

----Please replace the last paragraph on page 8 with the following.

ab [The present invention will be described in relation to a mass spectrometer, but the analytical device could be a UV spectrometer, a fluorescence detector, a mass spectrometer, an infrared spectrometer, a visible spectrometer, a RAMAN spectrometer, a surface plasmon resonance apparatus, and an atomic force microscope.] In a preferred embodiment, the analytical device is a mass spectrometer.

Figure 1 depicts a mass spectrometer 10 containing features of the present invention. This particular analyzer has a quadropole ion guide in its first stage, but as previously noted, this is not an essential feature since any kind of analyzer can be used with the present invention. The spectrometer is provided with a disc drive 12 into which a compact disc 14 is placed. The drive may be a conventional disc drive provided with a sliding tray that moves the disc from a first position where it is outside the drive (the load/unload position) and a second position where it is in position to register with the inspection means, which in this case is a laser 22. As noted, the inspection means can be any of those appreciated by the skilled artisan. The disc drive provides means for rotating the disc and moving the laser of a fiber optic energy source attached to the laser in a path that traverses the radius of the disc. In another embodiment the laser beam can be kept in a fixed position and the whole CD drive mechanism translated so as to access all positions from the center of the CD to its outer edge.

---Please replace the second paragraph on page 9 with the following.

ag In the case of a mass spectrometer, a vacuum must be [provide] provided to reduce the pressure in the spectrometer to the customary operating values. Therefore,

a 9 once id
it is advantageous to seat the disc drive within the vacuum chamber 30. Once the disc is loaded into the drive, the chamber 30 is sealed, and the spectrometer is evacuated by a valve [11at] 11 at a time prior to commencing the inspection of the samples.

---Please replace the fourth paragraph on page 9 with the following.]

a 10
The skilled artisan would readily appreciate that a source [14] other than a laser, or in addition to a laser, could be employed, such as a source which generates energetic collisions or which employs ESI sources. In the case of a mass spectrometer, the laser can be a pulsed laser with short duration pulses (psec to μ sec in duration) and the timing of the laser pulses correlated with the motions of the CD so as to hit any desired spot on the CD surface.

---Please replace the last paragraph on page 11 with the following.

a 11
The CD's used in the present invention are preferably provided with a clear polycarbonate surface, such as a surface of LEXAN® clear plastic sheeting. [The CD's may also be provided with a coating of a metallization layer over the data layer to enhance reflectivity.]

---Please replace the third paragraph on page 12 with the following.

a 12
In another arrangement, the disc 160 cannot move in the X and Y directions, but is able to rotate around the Z axis. Samples located on the disc surface are scanned by moving the positioning guide 158 along the X axis, Y axis, or both, so as to position each new sample at the [entrance] input 162 of the multipole ion guide 154.

AMENDMENTS TO THE DRAWINGS

Please consider the changes reflected in the enclosed marked up drawings.